

What is claimed is:

1. An emulated exchange comprising:
  - a main unit including at least one access device configured for supporting at least one line type and at least one switch interface card;
  - a plurality of ports in communication with said main unit, said ports adapted for receiving signals from communication devices; and
  - a switch simulator in communication with said at least one switch interface card.
- 10 2. The emulated exchange of claim 1, wherein said at least one line type includes at least a first line type and a second line type.
- 15 3. The emulated exchange of claim 2, wherein said main unit additionally comprises:
  - at least one of a first line card corresponding to said first line type and at least one second line card corresponding to said second line type, said at least one first line card and said at least one second line card in communication with said ports.
- 20 4. The emulated exchange of claim 3, wherein said first line card is adapted for Plain Old Telephone System (POTS) line types.
- 25 5. The emulated exchange of claim 3, wherein said second line card is adapted for Integrated Services digital Network (ISDN) line types.
6. The emulated exchange of claim 2, additionally comprising:
  - a controller in communication with said main unit and said switch simulator, said controller for configuring and managing the operation of said main unit and said switch simulator.

7. The emulated exchange of claim 1, wherein said at least one switch interface card includes at least one V5.1 interface card.

8. The emulated exchange of claim 4, wherein said port in communication with said at least one POTS line card is adapted for receiving communications from POTS telephones.

9. The emulated exchange of claim 5, wherein said port in communication with said at least one ISDN line card is adapted for receiving communications from ISDN telephones.

10. The emulated exchange of claim 1, wherein said switch simulator is configured for emulating a digital exchange and includes at least one of V5.1 ports or V5.2 ports.

15 11. The emulated exchange of claim 10, wherein said switch simulator is configured for processing POTS data.

20 12. The emulated exchange of claim 10, wherein said switch simulator is configured for processing ISDN data.

13. A method for emulating a telephone system exchange, the method comprising:

25 providing a switch simulator configured for emulating a digital exchange and opening at least one voice path between connected telephone devices;

monitoring at least one telephone line corresponding to at least one calling telephone for line conditions;

responding to a change in line conditions;

signaling said switch simulator to receive dialed digits;

30 activating said switch simulator for placing a call to the telephone line corresponding to the received dialed digits; and

initiating a signal for generating a ringing signal to the telephone line of an intended recipient, said intended recipient telephone line corresponding to said dialed digits.

- 5      14. The method of claim 13, wherein said step of monitoring at least one telephone line includes monitoring for an off-hook condition in said at least one calling telephone line.
- 10     15. The method of claim 13, wherein said step of responding to a change in line condition includes generating a dial tone to said at least one calling telephone line.
- 15     16. The method of claim 13, wherein said step of signaling said switch simulator to receive said dialed digits includes converting pulse dialed digits to messages.
- 20     17. The method of claim 13, wherein said step of signaling said switch simulator to receive said dialed digits includes transferring Dual Tone Multi-Frequency (DTMF) dialed digits over a voice path to said switch simulator.
- 25     18. The method of claim 13, wherein said at least one calling telephone line is an ISDN line.
- 30     19. The method of claim 13, wherein said at least one calling telephone line is a POTS line.
20.    The method of claim 13, wherein said intended recipient telephone line is an ISDN line.
- 30     21. The method of claim 13, wherein said intended recipient telephone line is a POTS line.

22. An emulated exchange comprising:  
a main unit including at least one access device configured for supporting  
first and second line types and at least one switch interface;  
a switch simulator, coupled to the switch interface of the main unit, to  
selectively switch calls of the first and second line types; and  
a port, coupled to the main unit, said port adapted to provide lines of the  
first and second line types for the emulated exchange.

23. The emulated exchange of claim 22, wherein the main unit includes  
POTS and ISDN line cards.

24. The emulated exchange of claim 22, wherein the main unit includes one  
of a V5.1 and a V5.2 switch interface card.

15 25. An exchange emulator, comprising:  
an access device, the access device including:  
a subrack;  
a plurality of line cards disposed in the subrack, each line card  
supporting at least one of the first and second line types;  
20 and  
a switch interface card, communicatively coupled to the plurality of  
line cards in the subrack;  
a switch simulator, coupled to the switch interface card of the access  
device, the switch simulator adapted to simulate a digital exchange; and  
25 a number of ports, selectively coupled to the plurality of line cards and the  
switch simulator.

26. The exchange emulator of claim 25, wherein each line card supports one  
of ISDN and POTS line types.

30 27. The exchange emulator of claim 25, wherein the switch interface card  
comprises one of a V5.1 and V5.2 switch interface card.

28. A method for testing a unit under test, the method comprising:  
generating a plurality of calls for lines of first and second line types;  
processing the plurality of calls in the unit under test;  
generating signals for a switch to connect the plurality of calls of each of  
the first and second line types;  
selectively switching calls for the first and second line types; and  
monitoring the operation of the unit under test.

29. The method of claim 28, wherein generating a plurality of calls comprises  
generating a plurality of calls for ISDN and POTS lines.

30. The method of claim 28, wherein selectively switching calls for the first  
and second line types includes:  
selectively switching calls of the first line type to a line of one of the first  
and second line types based on the generated signals; and  
selectively switching calls of the second line type to a line of one of the  
first and second line types based on the generated signals.

31. The method of claim 28, wherein processing the calls in the unit under  
test comprises processing the calls in an access device.

32. The method of claim 28, wherein generating a plurality of calls comprises  
generating a plurality of calls with a bulk call generator of the first line type.

33. The method of claim 32, and further including selectively converting some  
of the first line type to the second line type.

34. The method of claim 28, wherein monitoring the operation of the unit  
under test comprises monitoring at least one of load on the system, load on  
ISDN interfaces, Bit Rate Error (BER) performance, call processing  
performance, traffic handling.